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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,959	11/19/2003	Bogdanovich Alexander	7100-038	6455
4678 7590 09/26/2008 MACCORD MASON PLLC 300 N. GREENE STREET, SUITE 1600 P. O. BOX 2974 GREENSBORO, NC 27402				
EXAMINER JOHNSON, JENNA LEIGH				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
09/26/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/716,959

Applicant(s)

ALEXANDER ET AL.

Examiner

Jenna-Leigh Johnson

Art Unit

1794

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 8-10, 13-24, 26-29 and 31-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11, 12, 25, 30 and 41-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ ~~Notice of Informal Patent Application~~
- 6) ☐ Other: _____

DETAILED ACTION

Supplemental Office Action

1. The action is a supplemental action to the Office Action of July 1, 2008. Newly added claims 41 - 43 were not addressed in the previous Office Action. The Office Action has been redone to address those claims in the appropriate sections.

Response to Amendment

2. The Amendment submitted on March 31, 2008, has been entered. No claims have been cancelled. Claim 1 has been amended, claims 41 - 43 were added. Therefore, the pending claims are 1 - 43. Claims 8 - 10, 13 - 24, 26 - 29, and 31 - 40 are withdrawn from consideration as being drawn to a nonelected invention.

3. The 35 USC 102 rejection based on Ebbesen et al. (6,856,715) are withdrawn since Ebbesen et al. fails to teach a three-dimensional structure with the yarns running in the third direction which is substantially perpendicular to the first and second plane. However, a new rejection based on Ebbesen et al. is set forth below.

4. The 35 USC 102 and 35 USC 103 rejections based on Hill et al. (US 2003/0211797) are withdrawn since Hill et al. fails to teach a three-dimensional structure with the yarns running in the third direction which is substantially perpendicular to the first and second plane.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1 - 7, 11, 12, 25, 30, and 41 - 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebbesen et al. in view of Hirokawa (4,725,485).

The features of Ebbesen et al. have been set forth in the previous Office Action. While Ebbesen et al. discloses that the fabric can be a three-dimensional fabric without limitation (column 4, lines 65 - 67),

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Ebbesen et al. fails to teach a three-dimensional structure with the yarns running in the third direction which is substantially perpendicular to the first and second plane. Hirokawa is drawn to three-dimensional fabrics. Hirokawa teaches that the three-dimensional fabric includes a yarn running in the third direction is substantially perpendicular to the yarns running in the first and second directions (Figure 1). Thus, it would have been obvious to one having ordinary skill in the art too use known three-dimensional structures which include a yarn running in the third direction is substantially perpendicular to the yarns running in the first and second directions, as taught by Hirokawa et al., in the fabric of Ebbesen et al., since Ebbesen et al. discloses that the fabric general three-dimensional fabric structures. Further, the claim would have been obvious because the substitution of known three-dimensional fabric structures for other fabric structures would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Thus, claims 1 - 7, 11, 12, 25, and 30 are rejected.

With regards to claims 41 - 43, the limitations are interpreted as requiring the first and second yarns, 1 and 2, to form a structure with an inner portion and an outer portion, and the third fibers, 3, travel through the interior region of the structure, in a substantially straight path, and bends, or wraps around the first or second yarns at the outer surface of the structure. Specifically, Hirokawa uses three different sets of filaments (column 3, lines 1 - 10), that form a structure with a surface region and an interior region, and the z-direction yarns bend or wrap around the other yarns at the surface and enter back into the structure (Figure 1). The three groups of yarns are distinct yarns shown as either a white, black, or shaded line (column 4, lines 12 - 30).

7. Claims 1 - 7, 11, 12, 25, 30, and 41 - 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebbesen et al. in view of Nagatsuka et al. (5,242,768).

The features of Ebbesen et al. have been set forth in the previous Office Action. While Ebbesen et al. discloses that the fabric can be a three-dimensional fabric without limitation (column 4, lines 65 - 67), Ebbesen et al. fails to teach a three-dimensional structure with the yarns running in the third direction

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which is substantially perpendicular to the first and second plane. Nagatsuka et al. is drawn to three-dimensional fabrics. Particularly, Nagatsuka et al. discloses fabrics where the yarn running in the third direction is substantially perpendicular to the yarns running in the first and second directions (Figures 1 and 2). Thus, it would have been obvious to one having ordinary skill in the art too use known three-dimensional structures which include a yarn running in the third direction is substantially perpendicular to the yarns running in the first and second directions, as taught by Nagatsuka et al. or Hirokawa et al., in the fabric of Ebbesen et al., since Ebbesen et al. discloses that the fabric general three-dimensional fabric structures. Further, the claim would have been obvious because the substitution of known three-dimensional fabric structures for other fabric structures would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Thus, claims 1 - 7, 11, 12, 25, and 30 are rejected.

Claims 41 - 43 are rejected since Nagatsuka et al. discloses two yarns, **12** and **13**, that form the body of the structure, and a third yarn, **11**, which travels through the body in a substantially straight path and bends at the outer surface to go back into the body (Figure 2).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Johnson whose telephone number is (571) 272-1472. The examiner can normally be reached on Monday - Friday (8:00 - 5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jlj
June 23, 2008

/Jenna-Leigh Johnson/
Primary Examiner, Art Unit 1794